

Generis GmbH

Augsburg

08.12.2005

Patent claims

5

1. A procedure for layered composition of models, whereby at least a first material is applied to an assembly platform, followed by selective application of a second material layer; these two application steps are repeated until the required model is achieved and both materials form a solid structure in an appropriate mixture ratio. The first material comprises a moulding sand; the first and/or second material comprises a bonding agent encompassing a salt-crystal binder and/or protein binder.

15

2. A procedure according to claim 1, whereby the bonding agent is mixed into the first material.

3. A procedure according to claim 1 or 2, whereby the first material is a mixture comprising the bonding agent and moulding sand.

20

4. A procedure according to one of the previous claims, whereby the moulding is coated with the bonding agent.

25

5. A procedure according to one of the previous claims, whereby the bonding agent is mixed into the second material.

30

6. A procedure according to one of the previous claims, whereby the first material comprises moulding sand and bonding agent, and the second material comprises a solvent.

7. A procedure according to one of the previous claims,
whereby the solvent essentially comprises water.
- 5 8. A procedure according to one of the previous claims,
whereby the second material is applied by means of droplet
generation.
9. A procedure according to one of the previous claims,
10 whereby the second material is applied by means of screen
printing or spraying through a template.
10. A procedure according to one of the previous claims,
whereby the solvent is removed by drying after an
15 appropriate reaction time has elapsed.
11. A procedure according to one of the previous claims,
whereby the moulding sand comprises quartz sand, zircon
20 sand, olivine sand and/or fireclay sand.
12. A procedure according to one of the previous claims,
whereby the bonding agent comprises magnesium sulphate,
sodium polyphosphate and/or proteins.
25
13. Implementation of the procedure according one of the
claims from 1 to 11 for manufacturing components serving
as moulds for metal casting.

Generis GmbH

Augsburg

08.12.2005

Summary

5

Described is a procedure for layered composition of models, whereby at least a first material is applied to an assembly platform, followed by selective application of a second material layer; these two application steps are repeated
10 until the required model is achieved and both materials form a solid structure in an appropriate mixture ratio. The first material comprises a moulding sand; the first and/or second material comprises a bonding agent encompassing a salt-crystal binder and/or protein binder.

15